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TITLE: Method and apparatus for producing halftone images using green-noise masks having adjustable coarseness

Application Filing Date (1):19990111

## CLAIMS:

7. A machine comprising: a computer readable storage device which stores a dither matrix for use in halftoning image information; and a comparator responsive to the computer readable storage device, the dither matrix having at least one array that, when thresholded at a number of levels, produces a number of dot profiles, wherein a plurality of the number of dot profiles each have a power spectrum substantially characteristic of a green noise power spectrum for the level at which such dot profile is produced.

11. A machine comprising: a computer readable storage device which stores a dither matrix for use in halftoning image information; and a comparator responsive to the computer readable storage device, the dither matrix having at least one array, that, when threshold at a number of levels, produces a number of dot profiles, wherein a plurality of the number of dot profiles each have a pair correlation substantially characteristic of a green noise pair correlation for the level at which such dot profile is produced.

15. A machine comprising: a computer readable storage device which stores a dither matrix for a halftoning process; and a comparator responsive to the computer readable storage device, the dither matrix comprising a thresholdable multibit array, the multibit array, when threshold at a number of levels, producing a plurality of substantially green noise dot profiles, each dot profile appropriate for the respective level.

23. An apparatus for use in halftoning an image, the apparatus comprising: a dither matrix stored in a computer readable storage device; and a comparator responsive to the computer readable storage device, the dither matrix comprising a multibit array that can be thresholded, the multibit array, when thresholded at a plurality of respective levels, producing a plurality of substantially green noise dot profiles, each dot profile appropriate for the respective level.

52. A machine comprising: a computer readable storage device which stores a dither matrix for use in halftoning image information; and a comparator responsive to the computer readable storage device, the dither matrix comprising at least one thresholdable array designed to produce a plurality of local aperiodic, non-white noise and non-blue noise dot profiles when thresholded at respective levels.

60. A machine comprising: a computer readable storage device which stores an array for use in halftoning image information, the array comprising a non-white noise and non-blue noise, locally aperiodic, thresholdable dither matrix; and a comparator responsive to the dither matrix.

69. A machine comprising: a computer readable storage device which stores an array for use in halftoning image information, the array comprising a non-white and non-blue noise, non-ordered thresholdable dither matrix; and a comparator responsive to the dither matrix.